

CURRICULUM-VITAE

Dr. MANISH BELWAL (Permanent Add.)

S/O Shri T. C. BELWAL
Saain Puram, Himmat Pur Malla,
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Dr. MANISH BELWAL (Corresponding Add.)
Assistant Professor (Since 4 March 2011 to 16 November 2022)

Head in charge(2 January 2017 to 16 November 2022)

Botany Department
Govt. P. G. College, Gopeshwar (Chamoli)

Since 17 November 2022 Onwards
Assistant Professor,
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Date of Birth: 18-04-1976

DETAILS OF RESEARCH EXPERIENCE

- A. Ph. D. Degree awarded on the topic “Studies on Water Borne Conidial Fungi In The Running Fresh Water Bodies Of Kumaun Himalaya” from Kumaun University, Nainital in Botany.**

- B. Project Dissertation in Aquatic Mycology entitled “*Aquatic Hyphomycetous Flora of Fresh Water Stream Jeolikot, Nainital*” for one year 1998 in Post Graduate (Final) Botany.**

C. LIST OF RESEARCH PUBLICATIONS

Published Papers in National and International Journals:

1. Aquatic hyphomycetes from a fresh water stream Jeolikot, Kumaun Himalaya, India (1999). **M. Belwal** and S. C. Sati. *Nat. Acad. Sci. Letters*, **22: (9&10) 156-158.**
2. Seasonal Periodicity of Water Borne Conidial Fungi in a fresh water stream at Jeolikot, Kumaun Himalaya (2001). **M. Belwal** and S. C. Sati. *Indian Botanical Society*, **80:145-149.**
3. Conidial aquatic fungi of Nainital, Kumaun Himalaya, India (2002). S. C. Sati, N. Tiwari and **M. Belwal**. *MYCOTAXON*, **81: 445-455.**
4. Species Diversity of Water Borne Conidial Fungi in Fresh Water Streams of Kumaun Himalaya, Uttaranchal (2002). *Microbial Diversity: Status and Potential Applications*. S. C. Sati, N. Tiwari and **M. Belwal** (eds. S. C. Tiwari and G. D. Sharma) **pp 26-35.**
5. Addition to Indian Aquatic Mycoflora (2003). S. C. Sati, N. Tiwari and **M. Belwal**. *Indian Phytopathological Society*, **56 (4): 491-493.**
6. Aquatic Hyphomycetes as endophytes of riparian plant roots (2005). S. C. Sati and **M. Belwal**. *MYCOLOGIA*, **97 (1), pp 45-49.**
7. Phytosociology of Macro lichens occurring on pine tree of Nainital Kumaun Himalaya (2005). In "*Frontiers in Plant Sciences*". S. C. Sati, B. Pathak and **M. Belwal** (eds. K. G. Mukerji, K. V. B. R. Tilak, S. M. Reddy, L.V. Gangwane, P. Prakash, I. K. Kunvar) **pp 719-730.**
8. Fungal Flora of two Altitudinally Different Streams of Kumaun Himalaya (2005). **M. Belwal** and S. C. sati. *Recent Advances in Mycological Research*. (Ed. S. C. Sati) I. K. International Pvt. Ltd., New Delhi. 3-21.

9. Species Composition of Water borne conidial fungi in two altitudinally different streams of Kumaun Himalaya (2005) **M. Belwal**, N. Pargaiein and S. Bisht. In “*Recent Advances in Mycological Research. Recent Advances in Mycological Research.* (Ed. S. C. Sati) I. K. International Pvt. Ltd., New Delhi. pp **163-169.**
10. Three species of aquatic hyphomycetes as new root endophytes of temperate forest plants. (2006). S. C. Sati, N. Pargaiein and **M. Belwal.** *Nat. Acad. Sci. India*, **29 (2), 9-10.**
11. Endophytic aquatic hyphomycetes of roots from forested plants of Nainital, Kumaun Himalaya. (2006). Nirmala Pargaiein, S. C. Sati and **M. Belwal.** In “*Plant Science Researches in India: Challenges and Prospects*”, (edt. S. Kumar) **BSI, Dehradun, pp. 213-220.**
12. Ingoldian fungi: New Additions to Indian Aquatic Mycoflora (2007). **M. Belwal** and S. C. Sati. *Indian Society of Mycology and Plant Pathology*, **37(1): 11-14.**
13. Temperature tolerance of water borne conidial fungi in fresh water streams of Central Himalaya. (2008). **M. Belwal**, Sati, S.C. and Arya, P. *Natl. Acad. Sci. Lett.* **31 (5&6): 175-179.**
14. Diversity of water borne conidial fungi as root endophyte in temperate forest of western Himalaya. 2008. S. C. Sati, **M. Belwal** and Nirmala Pargaiein. *Nature and Science*, **6: 59-69.**
15. Quantitative estimation of water borne conidial fungal spores in the running fresh water body of Kumaun Himalaya. (2009). **Belwal, M.** and Sati, S.C. *J. Microb. World.* **11:42-48.**
16. Fungi associated with diseases of some Forest Plants of Nainital, Kumaun Himalaya (2008). J. Singh, **M. Belwal** and S. C. Sati.

In *Himalayan Floral Diversity* (Eds. L. M. Tewari *et al.*) pp 222 -230.

17. In vitro Conidial Production of Aquatic Hyphomycetes on submerged leaf litter. 2009. Sati, S.C. and **Belwal M.** **Nature and Science**, 7: 78-83,.
18. *Tetracladium nainitalense* anam. sp. nov. a root endophyte from Kumaun Himalaya, India S. C. Sati, P. Arya & **M. Belwal (2009)** Mycologia. **101(5), 692-695.**
19. Diversity of Aquatic Hyphomycetes as root endophytes on Pteridophytic Plants in Kumaun Himalaya. S. C. Sati, N. Pargaian & **M. Belwal.** 2009. Journal of American Science 5(4) 179 -182
20. Endophytic aquatic hyphomycetes from medicinal plant *Geranium nepalense* Sweet. Pargaian N, Sati SC and **M. Belwal (2012).** **In: Microbes: Diversity and Biotechnology** (Eds. S.C. Sati and M. Belwal). pp 429-432.
21. Sati SC and **Belwal M (2012).** Quantitative estimation of conidial production of water borne conidial fungi on defined submerged substrate. **In: Microbes: Diversity and Biotechnology** (Eds. S.C. Sati and **M. Belwal**). pp 433-443.
22. Occurrence and distribution of Kumaun Himalayan aquatic hyphomycetes: *Lemonniera*. S.C. Sati, Richa Pathak and **M. Belwal (2014).** **Mycosphere, 5 (4): 545–553.**
23. Variability in isoenzyme esterases and acid phosphatases pattern in different population of both the Rheum species from Garhwal Himalaya, India. U. C. Maithani, M. Belwal and M. C. Nautiyal(2014). **Int. J. Curr. Microbiol. App. Sci., 3 (10): 345-348.**
24. Occurrence of Aquatic Hyphomycetes in two altitudinally different streams of Chamoli District, Uttarakhand. **M. Belwal (2018).** In “Proceedings of National Conference on Multidisciplinary

Approaches of Plant Science”, (edt. K. P. Tripathi) Dept. Bot.
Dol. Inst. Bio. &Nat. Sci., Dehradun, pp.120-127.

Communicated Papers:

1. Gymnospermous leaf litter produce greater conidia of water borne conidial fungi among submerged substrate.2018.
2. Quantitative Variation in Conidial Production of Aquatic Hyphomycetes on Submerged Leaf Litter (2019).

D. Other Information related to research work:

Abstract Published(17) and Paper Presented(14):

- *Water Borne Conidial Fungi from a fresh water stream of Kumaun Himalaya (2002).* **M. Belwal** and S. C. Sati in **Silver Jubilee Conference** organized by **J I B S** held at **RuhelKhand University Barielly**.
- *Quantitative estimation of water borne conidial fugal spores in a fresh water stream of Kumaun Himalaya (2005).* **M. Belwal** and S. C. Sati in **XXVIII All India Botanical Conference** organized by **J I B S and BSI** held at Dehradun.
- *Aquatic Hyphomycetes as Root Endophytes of Pteridophytic plants in Kumaun Himalaya (2005).* S. C. Sati, N. Pargaein and **M. Belwal** in **XXVIII All India Botanical Conference** organized by **J I B S and BSI** held at Dehradun.
- *Endophytic Aquatic Hyphomycetes of roots from forested plants of Nainital, Kumaun Himalaya (2005).* N. Pargaein, S. C. Sati and **M. Belwal** in **XXVIII All India Botanical Conference** organized by **J I B S and BSI** held at Dehradun.
- *Water Borne Conidial Fungi : Some New Additions (2006)* **M. Belwal** and S. C. Sati in **93rd Indian Science Congress** held at **Acharya N. G. Ranga Agricultural University Hyderabad**.

- Seasonal diversity of water borne conidial fungi in different streams of Kumaun Himalaya, Uttaranchal, S. C. Sati and **M. Belwal**, Abstract in National Symposium on “**Biodiversity and Biotechnology: Research & Development needs in Edible Mushrooms & Crop Disease Managements**” Organized by ISMPP at Pant nagar (2006), **69pp**.
- Colonization of water borne conidial fungi on coniferous needle, **M. Belwal** and S. C. Sati, Abstract in **National Symposium on Microbial Diversity and Plant Health Problems** organized by **IPS**, ME Zone, at Gorakhpur (2006), **14pp**.
- Seasonal occurrence of water borne conidial in lower altitudinal running fresh water stream of Kumaun Himalaya, **M. Belwal** and S. C. Sati, Abstract in **94th Indian Science Congress Association**, (2007) **16pp**.
- Aquatic Hyphomycetes from forested Plant, **M. Belwal** S. C. Sati, Abstract in **94th Indian Science Congress Association**, (2007), **16-17pp**.
- Water Borne Conidial Fungi form fresh water streams of Kumaun Himalaya, Uttarakhand. **M. Belwal**, P. Arya and S. C. Sati. 2nd Uttarakhand State Science Congress held on **15-17 Nov, 2007** at Nainital.
- Temperature Tolerant Species of water borne conidial fungi in fresh water streams of Central Himalaya. **M. Belwal**, S. C. Sati and P. Arya. In 30th Annual Conference of Indian Botanical Society held at Jiwaji University Gwoliar **28-30th Nov 2007**.
- Effect of Climatic change on Diversity and Distribution of Water Borne Conidial Fungi. **M. Belwal**. International Seminar on Sustainable Development : Challenges and Strategies held at Govt. P. G. College Gopeshwar, Chamoli **21 & 22 October, 2016**.
- Occurrence of Aquatic Hyphomycetes in Running Fresh Water Streams of Chamoli District with special reference to water quality. **M. Belwal**. National Seminar on Human Environment Relationship: A special Discussion on Water Crisis in India held at P. N. G. Govt. P. G. College, Ramnagar (Nainital) **29-30 March 2017**.

- Occurrence of Aquatic Hyphomycetes in two altitudinally different streams of Chamoli District, Uttarakhand. **M. Belwal** (2018). A National Conference on Multidisciplinary Approaches of Plant Science & 28th APSI Scientist Meet held at Department of Botany, Dolphin Inst. of Biomedical & Natural Sciences, Dehradun, **29-31 October, 2018**.
- Exploration of Aquatic Hyphomycetes of Garhwal Himalaya: Sources of Energy in Fresh Water Streams (2018). **M. Belwal**. National Seminar on INDIA AND THE FOURTH REVOLUTION: CURRENT PROBLEMS AND FORECASTING CHALLENGES sponsored by UCOST, Dehradun held at UGC-Human Resource Development Centre, Kumaun University Nainital, **17-18 December 2018**.
- Occurrence of Aquatic Hyphomycetes on Root Endophytes in Healthy Plant Riparian Plant growing near Ravine Areas of Chamoli District. (2019) **M. Belwal**. International Conference on Contemporary Issues of Climatic Change, Conservation of Biodiversity and Natural Resources in Himalayan Environments held at Department of Zoology, Government P.G. College New Tehri, **14-16 November 2019**.
- Diversity of Aquatic Hyphomycetes in Water Foam Samples from two altitudinally different running fresh water streams of Chamoli District. 2019. **M. Belwal**. NAAC sponsored National Seminar on Quality Enhancement in NAAC Perspective organized by IQAC held at Govt. Post Graduate College Gopeshwar (Chamoli). **26-27 November 2019**.

Seminar/ Webinar Organized:

Worked as Convener in National Webinar on “Conservation of Natural Resources in Indian Himalaya” organized by Department of Botany, Govt. P. G. College Gopeshwar (Chamoli) held on dated 22 April 2022.

BOOK PUBLISHED (EDITED):

Microbes: Diversity and Biotechnology. S. C. Sati and M. Belwal (2012).
Daya Publishing House, New Delhi. **ISBN 978-81-7035-794.**

Training programme/ workshops attended:

- Attended Workshop on “*GIS and Remote sensing*” at Geography Department, Kumaun University, Nainital held at 200 .
- Participated “*National Seminar on Biotechnology innovation systems of India Policy Measures and Support Mechanisms*” organized by Department of Biotechnology, Kumaun University Nainital held at ATI Nainital on 6-7th October, 2006
- Attended “**The Refresher cum Training course on Plant Tissue Culture and Plant Biotechnology**” sponsored by **State Biotechnology Programme , Govt. of Uttarakhand** at TIFAC-CORE, *Thapar Institute of Engineering and Technology (Deemed University) Patiala, Punjab* held at January 15-21, 2007.
- Attended short term **Training course on Plant Tissue Culture** sponsored by **State Council for Science and Technology and supported by State Biotechnology Programme, Govt. of Uttaranchal** held at Botany Department, D S B Campus, Nainital June 7-16, 2007.

EXPERTISE ON:

- **TECHNIQUES:** Mycological Technique, identification of aquatic fungi (lower and higher fungal group), Photomicrography with Manual and Digital camera
- **COMPUTER:** Word processor, Microsoft word, Microsoft Excel, Microsoft Power Point.
- **OPERATING SYSTEM:** Microsoft Window 98/2000/xp; Microsoft Internet Explorer, Statistical software- SPSS, Statistica 6.0

QUALIFICATION:

Exam passed	Board / University	Year	Subjects	Division
HighSchool	UP Board	1991	Hindi, Eng., S. Sc., Maths, Science-2, Bio.	II nd
Intermediate	UP Board	1993	Hindi, English, Biology, Physics,	II nd

			Chemistry	
B. Sc.	Kumaun University	1996	Zoology, Botany, Forestry	II nd
M. SC.	Kumaun University	1998	Botany (Spl. Mycology & Taxonomy)	I st
Ph. D.	Kumaun University	2002	Botany	

ADDITIONAL EDUCATIONAL QUALIFICATION:

- **Passed Single paper as specialization in *Plant Pathology* from Kumaun University, Nainital on 2002.**

DETAILS OF EMPLOYMENT IN PAST

- a. **Teaching on *Contract Basis* for Graduate and Post Graduate Classes in D S B Campus, Kumaun University, Nainital:**

Aug 2003 - Dec2003

Feb 2004 - May 2004

Aug 2004 – Dec 2004

Dec 2004 – June2005

Aug 2006 – September 2009

- b. **Taught Environmental Sciences for Graduate classes since Aug. 2004 to 2nd September 2009**

- c. **Worked as Assistant Professor in Department of Biotechnology, Devasthali Vidya Peeth, Lalpur, Kichha (Udhamsingh Nagar) since 3rd September 2009 to 30th July 2010.**

- d. **Worked as Assistant Professor in Department of Biotechnology, Pal College of Technology & Management, R T O Road, Kusumkhera, Haldwani (Nainital) since 18th August 2010 to 30th October.**

- e. **Rejoined Botany Department, D S B Campus, Kumaun University Nainital as contract Lecturer on 9th November 2010 to 31st December 2010.**

Place:

(Manish Belwal)